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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/626,494	Applicant(s) DEVARAJAN ET AL.	
	Examiner Daniel F. Hajnik	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 22 May 2006.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-13,19-22,24,26 and 28-72* is/are pending in the application.

4a) Of the above claim(s) *29-57,64,69 and 70* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-13,19-22,24,26,28,58-63,65-68,71 and 72* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 1, 6, 7, 19, 22, 24, 26, 58, 61, 62, 65, 68 have been amended.

2. Claims 71 and 72 have been added.

3. Claims 2-5, 14-18, 23, 25, and 27 have been cancelled.

4. The objections to the drawings and the claims made in the previous office action have been withdrawn in response to amendments made by applicant.

Election/Restrictions

5. This application contains claims 29-57, 64, 69, and 70 drawn to an invention nonelected with traverse in Paper No. 07202005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

7. Claims 65 and 72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, claim 65 states "wherein steps (a) and (b) comprises:" and claim 72 states "wherein steps (d) and (e) comprises:". In both of these instances it is unclear which of the claimed features belong to which step. For example, in claim 72, it is unclear which of the seven claimed limitations belong to step (d) and which belong to step (e).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 6-13, 19-22, 24, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balachander (NPL Document "Form Feature Extraction from 2-D Orthographic Views", herein referred to as "Balachander").

As per claim 1, Balachander teaches the claimed:

> *1. (Currently Amended) A method for building, a three-dimensional model using an application neutral format*

By teaching of:

> **The recognition of 3-D geometric entities like cones, spheres and parallelepipeds** from 2-D orthographic views is made possible by using a constraint based method. The constraints which would need to be satisfied **for the presence of a 3-D entity** is developed as follows.
> (towards top of pg. 18)
> (emphasis added to various quotations from the reference)

> Therefore the input to the system will be in **a neutral file format**
> (towards bottom of pg. 24)

Here, the 3-D geometric entities from the 2-D views are associated with a three-dimensional model. Further, a three-dimensional model is shown in figure 5.23 as output.

Balachander teaches the claimed:

> *building a plurality of features based on a feature class to give a plurality of built features, wherein the feature class comprises feature geometry, feature constraints, and feature dimensions;*

By teaching of:

> Finally, the **isolated features previously recognized are classified** as protrusions and depressions **and stored in a feature database** as form features
> (towards middle of pg. 24)

Here, the features are built through extraction of the 2-D views. Further, the chart on pg. 56 shows the feature class, geometry, constraints, and dimensions. Further, the reference teaches of constraints for a cone (a feature)(bottom of pg. 18).

Balachander teaches the claimed:

> *defining the built feature as a geometric representation of an individual feature type;*

By teaching of in the chart on pg. 56 of geometric representations of individual feature types such as Channel, Step, and Open Pocket.

Balachander teaches the claimed:

> *ordering the plurality of built features;*

By teaching of:

> In order to classify the features as protrusions and depressions **we consider the feature loops together with the enclosure relationships**. (towards middle of pg. 49)

Here, pg. 49 shows a loop hierarchy. Further, the loops are associated with features (build). Thus, the build features are ordered according to the hierarchy relationship. Further, Figure 2.1 (pg. 9) also shows a build feature hierarchy.

Balachander teaches the claimed:

> *building a three-dimensional feature-based model based on the ordering of the plurality of built features to give a representation;*

By teaching of forming features in last step in the flow chart on pg. 62. Further, a built model is shown in figure 6.5 on pg.66.

Balachander does not explicitly teach the claimed:

> *storing the representation in a binary file format*

Balachander suggests the claimed limitation by teaching of:

> output files
> (towards middle of pg. 63)

It would have been obvious to one of ordinary skill in the art at the time of invention to use the claimed feature because a binary output file can be used as a universal, widely-accepted format on a variety of different systems. One advantage of this modification is suggested by Balachander which teaches of:

> It is desirable for the system developed here to be interfaced to most CAD environments

(towards bottom of pg. 24)

As per claims 6 and 7, Balachander teaches the claimed:

> *6. (Currently Amended) The method of claim 1, wherein the binary file format comprises a geometry library and a feature library adapted to build the three-dimensional model.*
>
> *7. (Currently Amended) The method of claim 6, wherein the geometry library comprises geometry classes for:*
>
> *two-dimensional entities; three-dimensional entities- line; arc; elliptical arc; polyline; spline; face; points; and vectors.*

By teaching of:

> The **geometry of these features** in addition to its type (protrusion/depression) **is stored**
> (towards middle of pg. 54)
>
> Information about the **lines, arcs, and circles** which make up the drawing
> (towards top of pg. 25)
>
> All **feature loops** belonging to a particular view **along with their classifications are stored in separate files**
> (towards top of pg. 62)
>
> **Every line entity in the database** must be connected to at least one other line entity (real or virtual) in the database
> (towards middle of pg. 26)

and in figure 5.23 where two-dimensional and three-dimensional entities are shown.

As per claims 8-10, Balachander does not explicitly teach the claimed:

> *8. (Original) The method of claim 7 further comprising copying data between at least one of the class's private data space and an address of the data specified from a calling function.*

> *9. (Original) The method of claim 8 further comprising, within each class, classifying the data as at least one of a following classification from a group consisting of: fundamental data; and derived data.*
>
> *10. (Original) The method of claim 9 further comprising ensuring, by each of the classes, that any change made to the fundamental data via a function will update the derived data accordingly.*

However, Balachander suggests the claimed limitations by teaching of calling functions in the pseudo code on pg. 74, C++ like source code (pgs. 74-75), and 'store parent child information in hierarchy structure' (towards bottom of pg. 75), and the section titled '5.4.2 Update drawing files' (towards the middle of pg. 33). Given these teachings, it would have been obvious to one of ordinary skill in the art at the time of invention to use the claimed features because class structures in C++ often utilize private data spaces, derived data (through inherence), and propagated updating (i.e. through a hierarchy tree structure based on inheriting properties from a root node). One advantage for utilizing the claimed features is that the class data structure is one of the most prominent and well-known methods for organizing data structures used with writing source code for implementing a program.

As per claims 11-13, Balachander teaches the claimed:

> *11. (Original) The method of claim 1 further comprising independently defining each feature via a three-dimensional coordinate system.*
>
> *12. (Original) The method of claim 11, wherein the three-dimensional coordinate system contains the data necessary to detect at least one of a following element from a group consisting of:*
>
> *a work plane; a sketch plane; and a face upon which a feature may need to be built.*

> *13. (Original) The method of claim 12, wherein the data comprises at least one of a following element from a group consisting of:*
> *plane vectors an origin of the plane; and*
> *an elevation of the plane from a world origin.*

By teaching of independently defining features (chart towards of pg. 56) and by teaching of:

> We have **considered extraction of features whose axes are either parallel or perpendicular to one of the three principal planes** (towards bottom of pg. 56)

Here, if considering the 3D structure in figure 5.23 (pg. 55) the features can be built upon a face (such as the top plane face of the overall large rectangular shaped box). Some of these features include the channel, open pocket, cylinder, and step. Further, these features have an elevation from a given world origin, which in this case can be the ground from which the 3-D shape rests on. Lastly, an independent definition of a feature with a three dimensional coordinate system is also shown in figure 4.1 (pr. 19) in the upper right picture.

As per claim 19, Balachander teaches the claimed:

> *19. (Currently Amended) The method of claim 1, wherein the feature constraints are handled via a class that provides at least one of a following action from a group consisting of:*
>
> *defining a constraint type, a constraint data value, and a constraint object; and*
>
> *indicating if the constraint is to an edge or to a point, and a definition of the edge or the point, wherein the indicating is based on a constraint object type.*

By teaching of:

> 4.2 Constraints for a cone
> (towards bottom of pg. 18)

Here, figure 4.1 shows that the constraints can have a defined constraint type (i.e. depression), a constraint data value (i.e. coordinate points), and a constraint object (i.e. a cone).

As per claims 20 and 21, Balachander teaches the claimed:

> *20. (Original) The method of claim 1, wherein the binary file format may contain stored two-dimensional input views via a class.*
>
> *21. (Original) The method of claim 20, wherein each view class contains at least one of a following element from a group consisting of:*
>
> *an array of two-dimensional entities; and*
>
> *a coordinate system associated with the view.*

By teaching of:

> The co-ordinates of the start and end points of the lines, arcs, and circles **are normalized with respect to a common origin**
> (towards top of pg. 26)

and further by teaching of an input file (pg. 79) contained two-dimensional input view information where the data can be considered organized by class (i.e. by view). Further, the data can be considered associated a coordinate system with a view because the coordinate points are all based off a common reference (coordinate system)(i.e. 0,0,0,6 and 0,6,10,6) for the particular view defined by the file.

As per claims 22 and 24, Balachander teaches the claimed:

> *22. (Currently Amended) The method of claim 1, further comprising transferring system specific data through an intermediate file based on the ordering of the built features.*

> *24. (Currently Amended) The method of claim 1 further comprising transferring application specific data through an intermediate file based on the ordering of the built features.*

By teaching of an order of built features (figure 2.1, pg. 9) and by teaching of an output file (towards top of pg. 63)(an intermediate file). This output file is intermediate because it is used between the 2-D to 3-D conversion process and the later 3-D manipulation process on a CAD system. Here, the application or system specific data can be associated with a CAD modeling system and its software.

As per claim 26, Balachander does not explicitly teach the claimed:

> *26. (Currently Amended) The method of claim 1, wherein the binary file format is a binary file of individual features and metadata associated with each feature is created by serializing object data structures of individual features and associated metadata.*

Balachander suggests the claimed limitation by teaching of serially defined object data structures in the chart on the top of pg. 56. Further, metadata can be included into the data structure through the use of labels to organize the features. One advantage to organizing the data is this way is to utilize writing data structure data to files by using loops where a loop involves an iteration of one item at a time.

As per claim 28, Balachander does not explicitly teach the claimed:

> *28. (Original) The method of claim 1, wherein the binary file format can be incrementally updated.*

Balachander suggests the claimed limitation by teaching of:

> The drawing files of the three views must be updated
> (towards middle of pg. 33)

It would have been obvious to one of ordinary skill in the art at the time of invention to use the claimed feature because an incremental update is one the fastest and most accepted ways to update binary file information. This would work well when many updates are needed.

10. Claims 58-63, 65-68, and 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balachander in view of Hazama et al. (US Patent 6212441, herein referred to as "Hazama").

As per claim 58, Balachander teaches the claimed:

> *58. (Currently Amended) A method for converting a two-dimensional drawing to a three-dimensional model*

By teaching of:

> **The recognition of 3-D geometric entities like cones, spheres and parallelepipeds** from 2-D orthographic views is made possible by using a constraint based method. The constraints which would need to be satisfied for the presence of a 3-D entity is developed as follows.
> (towards top of pg. 18)
>
> Although very limited work directly pertaining to feature recognition from 2D drawings has been done **it is interesting and appropriate to look at done in a related field. This field is the conversion of 2D CAD data to a 3D CAD format**.
> (towards middle of pg. 46)

Here, the recognition of 3-D geometric entities built into feature models (pg. 66, fig 6.5) are associated with three dimensional models.

Balachander teaches the claimed:

> *(a) inputting the two-dimensional drawing;*

By teaching of:

> **the input** to the system will be in a neutral file format. The file format used here **is the DXF format**. **The 2-D drawings** from most CAD packages can be obtained in the DXF format
> (towards bottom of pg. 24)

Balachander teaches the claimed:

> *(c) using an automated feature detection system to create matched feature loops;*

By teaching of:

> The complex task of **feature recognition** and extraction is broken down into many sub-tasks which are performed in a certain sequence. Our intent is **to automate the process** as much as possible.
> (towards top of pg. 24)
>
> 'Find_featureloops()'
> (first box in flow chart on pg. 62)

Balachander teaches the claimed:

> *(d) performing a profile analysis and a feature analysis on the matched feature loops;*

By teaching of:

> **The recognition of 3-D geometric entities like cones, spheres and parallelepipeds from 2-D orthographic views** is made possible by using a constraint based method.
> (towards top of pg. 18)
>
> We will explain how a constraint based technique can be developed **to recognize a normal right cone from its 2-D orthographic views**
> (towards top of pg. 19)

Here, the profile and feature analysis is performed by checking for subparts (features) associated with a feature loop in each 2-D orthogonal view (profile view) to match between the views. The matching is performed as feature analysis.

Balachander teaches the claimed:

> *(e) producing an ordered list of three-dimensional features;*

By teaching of:

> In order **to classify the features as protrusions and depressions we consider** the feature loops together with **the enclosure relationships**.
> (towards middle of pg. 49)

Here, pg. 49 shows a loop hierarchy. Further, the loops are associated with features (build). Thus, the build features are ordered according to a relationship.

Balachander does not explicitly teach the claimed:

> *(f) writing the ordered list of three-dimensional features to a binary file format.*

Balachander suggests the claimed limitation by teaching of:

> output files
> (towards middle of pg. 63)

It would have been obvious to one of ordinary skill in the art at the time of invention to use the claimed feature because a binary output file can be used as a universal, widely-accepted format on a variety of different systems. One advantage of this modification is suggested by Balachander which teaches of:

> It is desirable for the system developed here to be interfaced to most CAD environments
> (towards bottom of pg. 24)

Balachander does not explicitly teach the claimed:

> *(b) correcting errors associated with the two-dimensional drawing to give a corrected two dimensional drawing;*

Hazama teaches the claimed limitation in figure 13, step S.162 ("2D Clean Up").

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balachander and Hazama. Hazama teaches one advantage of the combination by teaching of:

> When developing the 3-D model at step S.168, **an additional clean-up process may be included in order to further process and refine the resultant 3-D model**.
> (col 58, lines 7-10)

where Balachander would benefit from the added functionality through better prepared and useful 2D drawings.

As per claim 59, Balachander does not explicitly teach the claimed:

> *59. (Original) The method of claim 58 further comprising interfacing the binary file format to a binary file system.*

Balachander suggests the claimed limitation by teaching of:

> output files
> (towards middle of pg. 63)

It would have been obvious to one of ordinary skill in the art at the time of invention to use the claimed feature because a binary file system can be a logical and useful method for interfacing with binary file formats.

As per claim 60, Balachander teaches the claimed:

> *60. (Original) The method of claim 59 further comprising producing a parametric feature based three-dimensional model.*

In figure 5.23 on pg. 55.

As per claims 61-63, Balachander teaches the claimed:

> *61. (Currently Amended) The method of claim 60 further comprising back projecting the three-dimensional model to obtain drawing views associated with a three-dimensional mode*
>
> *62. (Currently Amended) The method of claim 61 further comprising overlaying the drawing views on top of the two-dimensional drawing views.*
>
> *63. (Original) The method of claim 62 further comprising comparing the views.*

By teaching of:

> **We study the 2-D orthographic projections of the 3-D geometric entity**. We then choose **the view which contains the pattern** which would most likely indicate the presence of that entity. This is called the critical pattern for that entity. **We now search the remaining two orthographic views for characteristic patterns formed by the 3-D feature** in.
> question.
> (towards middle of pg. 18)

Here, the comparing is achieved through searching the remaining two orthographic views. Further, the search can include overlaying in order to find the pattern of the entity through comparison.

As per claim 65, Balachander teaches the claimed:

> *automatically splitting entities in the drawing or in the corrected drawing corresponding to top, front and side views.*

In figure 5.19 on pg. 47.

Balachander does not explicitly teach any of the remaining claim limitations.

Hazama teaches the claimed:

> *automatically filtering non-graphical entities;*

in col 52, lines 53-58 by teaching of detecting and eliminating text (non-graphical) features for the 2-D drawings.

Hamaza suggests the claimed:

> *exploding any blocks in the drawing to accumulate indivisible geometric entities;*

By teaching of in figure 14A, step S.192 of detecting inside loops, holes, and shapes. It would have been obvious to one of ordinary skill in the art at the time of invention to use the claimed feature because exploded views provide an excellent way to perform analysis on inside loops, holes, and shapes by spreading apart the pieces. One advantage for utilizing the claimed feature is to more quickly and accurately process the shape data for analysis.

Hazama teaches the claimed:

> *performing error checking on the drawing;*
>
> *if errors are found, correcting the errors;*

By teaching of:

> As such, according to an aspect of the invention, the 3-D clean-up process may **include processes and operations for detecting and removing one sided open lines and for detecting and cleaning bendlines and trimming faces**
> (col 58, lines 20-24)

Here, the 3-D clean-up process is checking for errors and correcting any if needed.

As per claims 66-68, Balachander teaches the claimed:

66. (Original) The method of claim 65 further comprising fixing a common origin for each view.

67. (Original) The method of claim 66 further comprising translating the entities to the common origin.

68. (Currently Amended) The method of claim 67 further comprising writing the translated geometric entity data to classes.

By teaching of:

The co-ordinates of the start and end points of the lines, arcs, and circles **are normalized with respect to a common origin**
(towards top of pg. 26)

We have **considered extraction of features whose axes are either parallel or perpendicular to one of the three principal planes**
(towards bottom of pg. 56)

Here, the three principal planes can be aligned to form a common origin and the extraction is performed by using the views. Further, the chart on the top of pg. 56 shows a translational property associated with the root object features.

As per claim 71, Balachander teaches the claimed:

71. (New) The method of claim 58, wherein step (c) comprises:

receiving the corrected two-dimensional drawing;

By teaching of the "2-D Orthographic Views (DFX File)" in the first box of the flow chart on pg. 25 where this two dimensional drawing can be corrected before Balachander performs analysis of the views.

Balachander teaches the claimed:

performing a subpart extraction of the corrected two dimensional drawing

performing a subpart matching of the corrected two dimensional drawing;

By teaching of:

> The complex task of **feature recognition and extraction is broken down into many sub-tasks** which are performed in a certain sequence (towards middle of pg. 46)
>
> We will explain how a constraint based technique can be developed **to recognize a normal right cone from its 2-D orthographic views** (towards top of pg. 19)

Here, the extraction and matching is performed by checking for patterns for a subpart (a cone) in each orthogonal view to match between the views. A match indicates that the subpart can be extracted.

Balachander teaches the claimed:

> *extracting nested loops and circular loops;*

By teaching of:

> 5.4.4.1 Identification of Feature Loops
> (towards top of pg. 46)
>
> circular feature loops
> (towards bottom of pg. 46)
>
> The nested nature of these isolated loop is discovered
> (towards middle of pg. 63)

Balachander teaches the claimed:

> *matching the nested loops and circular loops; and*

By teaching of matching nested and circular loops in figure 5.19 where the matching is the correspondence between view 1 where they are known, and views 2 and 3.

> We will explain how a constraint based technique can be developed **to recognize a normal right cone from its 2-D orthographic views**
> (towards top of pg. 19)

Here, as shown in figure 6.7 a protrusion associated with a loop can be situated inside a depression associated with an outer loop (i.e. a loop for a cylindrical depression). This inner loop can represent an inner structure such as right cone. Thus, the features shown in figure 6.7 show a nested loop, and thus this feature would require matching nested loop as well.

Balachander teaches the claimed:

> *producing matched feature loops.*

By teaching of matched feature loops in figure 5.22 where loops 1, 2, and 3 are shown.

As per claim 72, Balachander teaches the claimed:

> *72. (New) The method of claim 58, wherein steps (d) and (e) comprises:*
>
> *receiving the matched feature loops;*
>
> *performing a profile analysis on each loop match;*

By teaching of:

> For arcuated feature loops, or circular feature loops the isolated entities (arcs, circles) are replaced by squares (these are formed by four line entities) which enclose them
> (towards bottom of pg. 46)

Here, profile analysis of the loops is performed for each loop as is seen in figure 5.19 on pg. 47.

Balachander teaches the claimed:

> *building feature subtrees;*
>
> *setting a relative volume operation for each of the feature subtrees;*
>
> *building feature relations on the feature subtrees;*

building a model tree based on the feature relations;

producing a final feature tree based on the model tree to give the ordered list of three dimensional features.

By teaching of in figure 2.1 on pg. 9 a feature tree where the model tree is incorporated into the feature tree through model features such as protrusions and depressions. Further, subtrees, relative volume settings, and features relations of these subtrees are depicted through branches of the main tree such as the protrusions and depressions part where these subtrees indicated the relationship of features. Through these relationships as indicated by the tree one can find the feature relations and relative volume operations.

Response to Arguments

11. Applicant's arguments filed have been fully considered but they are not persuasive. The arguments relating to the reference of Rappoport (US Patent 6614430) are moot in view of new grounds of rejection necessitated by amendment. Applicant further argues that the prior art rejections using the Hamaza patent (US Patent 6212441) are improper because Hamaza deals with sheet metal drawings only while the current application provides an architecture for accepting generic mechanical piece part drawings (bottom of pg. 19 and top of pg. 20). However, the claim language at the time did not explicitly teach of not being able to analyze sheet metal drawings in regards to cleaning up the 2-D drawings before 3-D conversion. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is

noted that the features upon which applicant relies (i.e., generic mechanical piece part drawings) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. Further arguments in regards to Hamaza patent (US Patent 6212441) are moot because the grounds of rejection has been changed in this office action to address amendments to the claim language.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel F. Hajnik whose telephone number is (571) 272-7642. The examiner can normally be reached on Mon-Fri (8:30A-5:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka J. Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel Hajnik 8/7/06

DFH

Ulka Chauhan
ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER